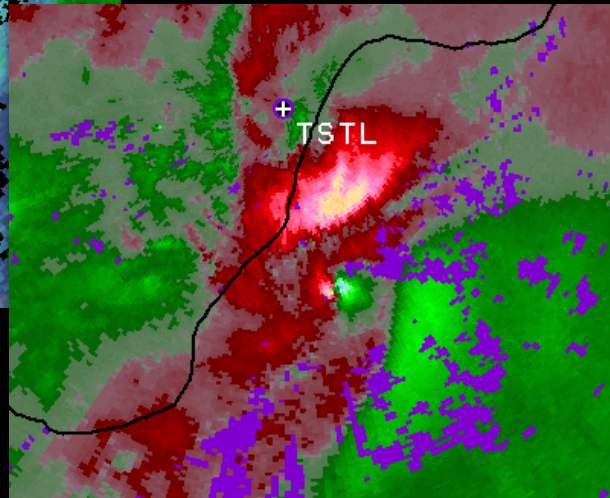
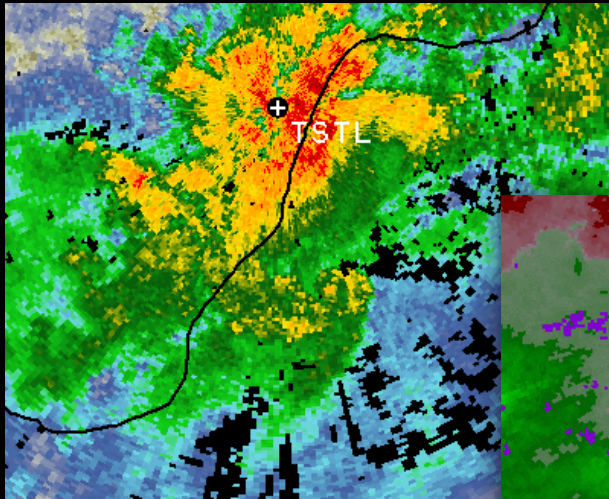


Factors contributing to the lack of fatalities and significant injuries with the April 22nd, 2011 St. Louis EF-4 tornado



2012 National Severe Weather Workshop
Norman, OK

Laura Kanofsky
NWS St. Louis, MO





EF-4

21.4 mile path length

No fatalities from the 4/22/2011 St. Louis tornado

```
graph BT; A[No deaths in the metro area] --> D[No fatalities from the 4/22/2011 St. Louis tornado]; B[No deaths on the interstates] --> D; C[No one died while storm chasing] --> D; E[No deaths at the airport] --> D; F[Tornado occurred] --> D;
```

No
deaths
in the
metro
area

No deaths
on the
interstates

No one
died
while
storm
chasing

No
deaths
at the
airport

Tornado
occurred

No fatalities from the 4/22/2011 St. Louis tornado

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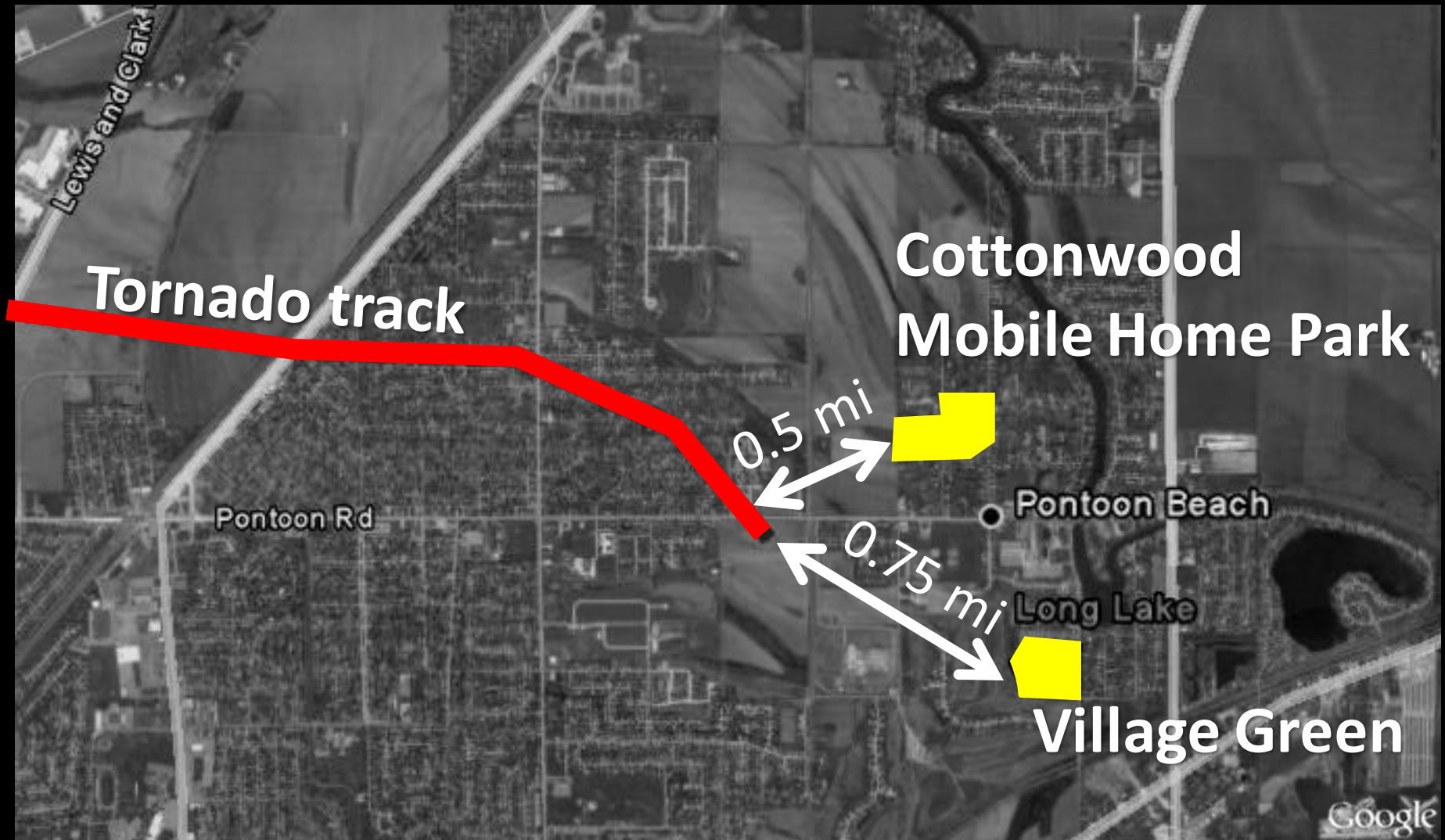
Top 5 Reasons Why No One Died in the Metro Area

5. Luck



Top 5 Reasons Why No One Died in the Metro Area

4. No mobile homes were hit



Top 5 Reasons Why No One Died in the Metro Area

3. Most homes in St. Louis have basements



(basement not shown)

Top 5 Reasons Why No One Died in the Metro Area

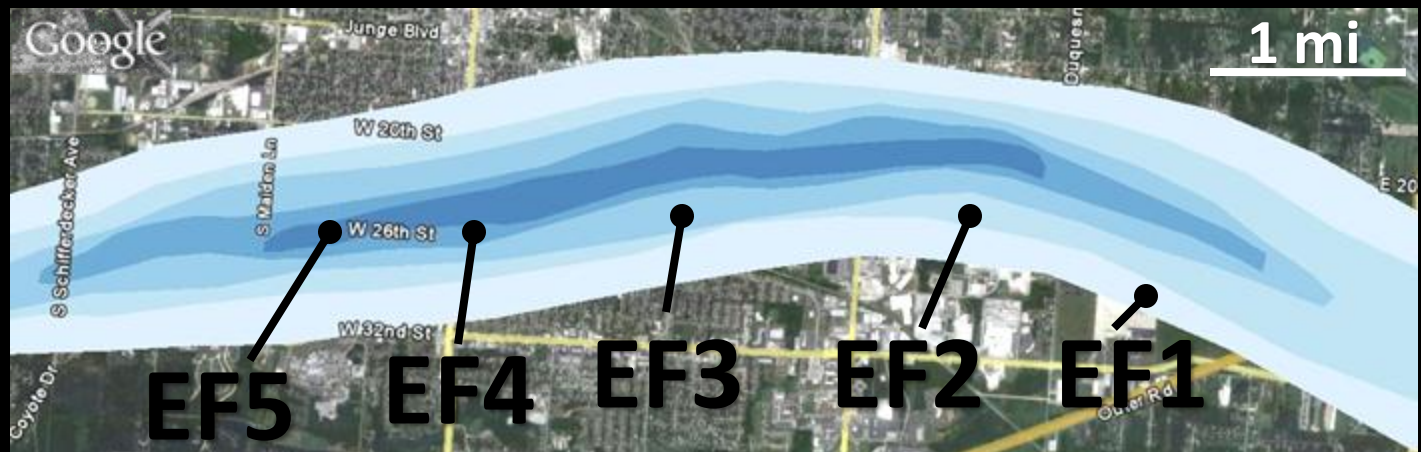
2. Much less EF-4 damage compared to other killer tornadoes in 2011

St. Louis
EF-4



Joplin
EF-5

(data courtesy
WFO SGF)



Top 5 Reasons Why No One Died in the Metro Area

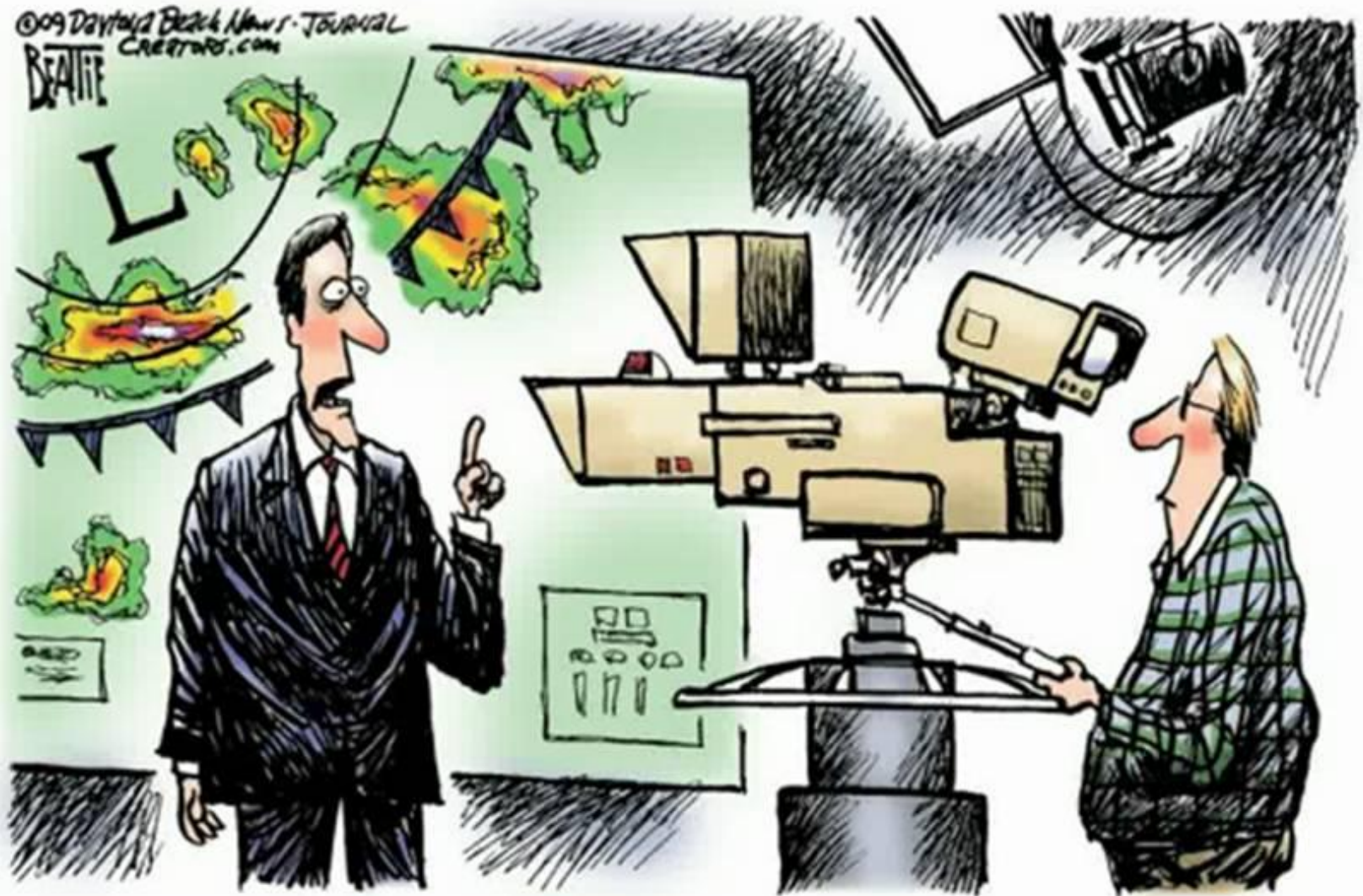
5. Luck

4. No mobile homes were hit

3. Most homes had basements

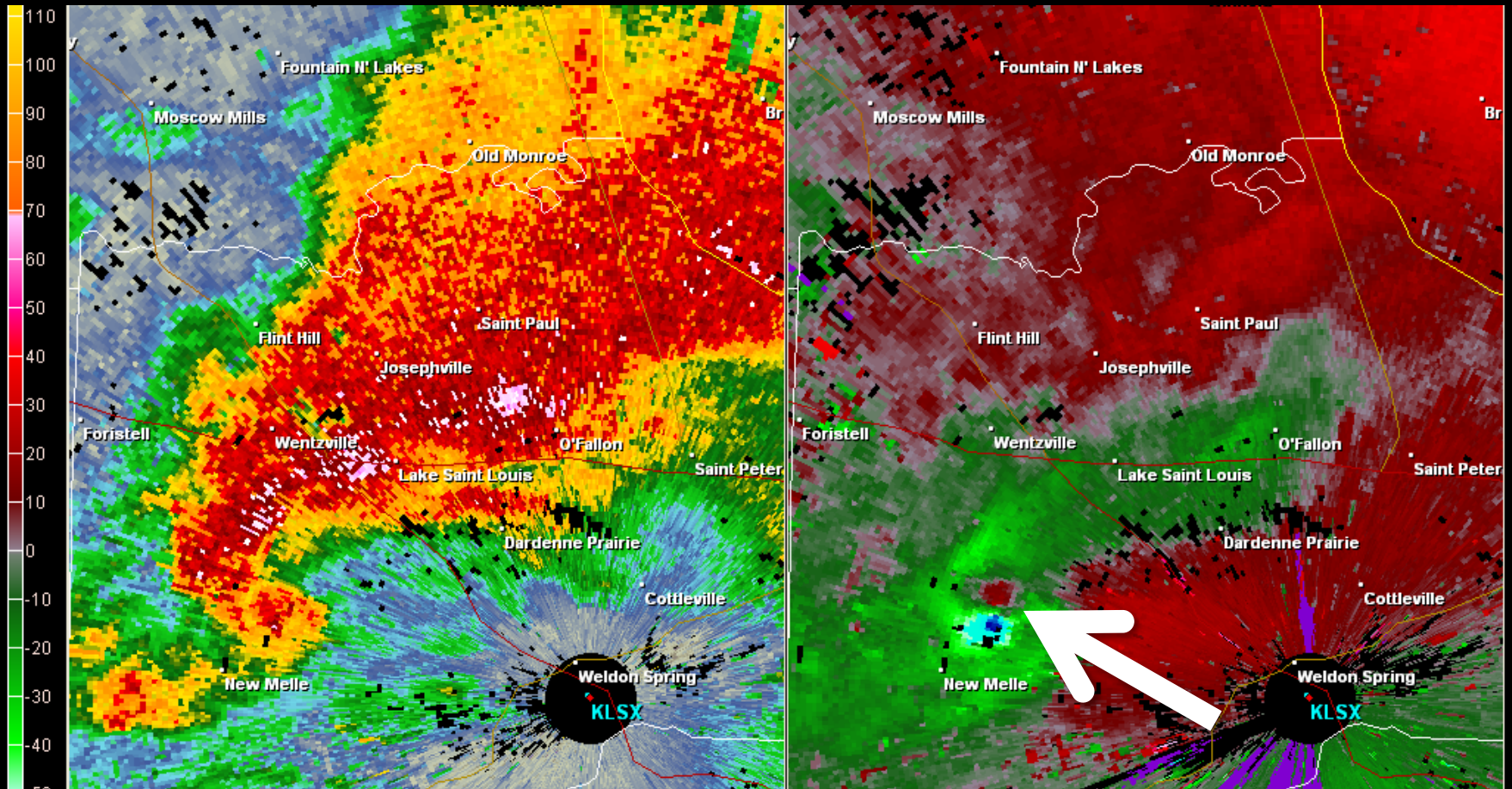
2. Most damage was below EF-4

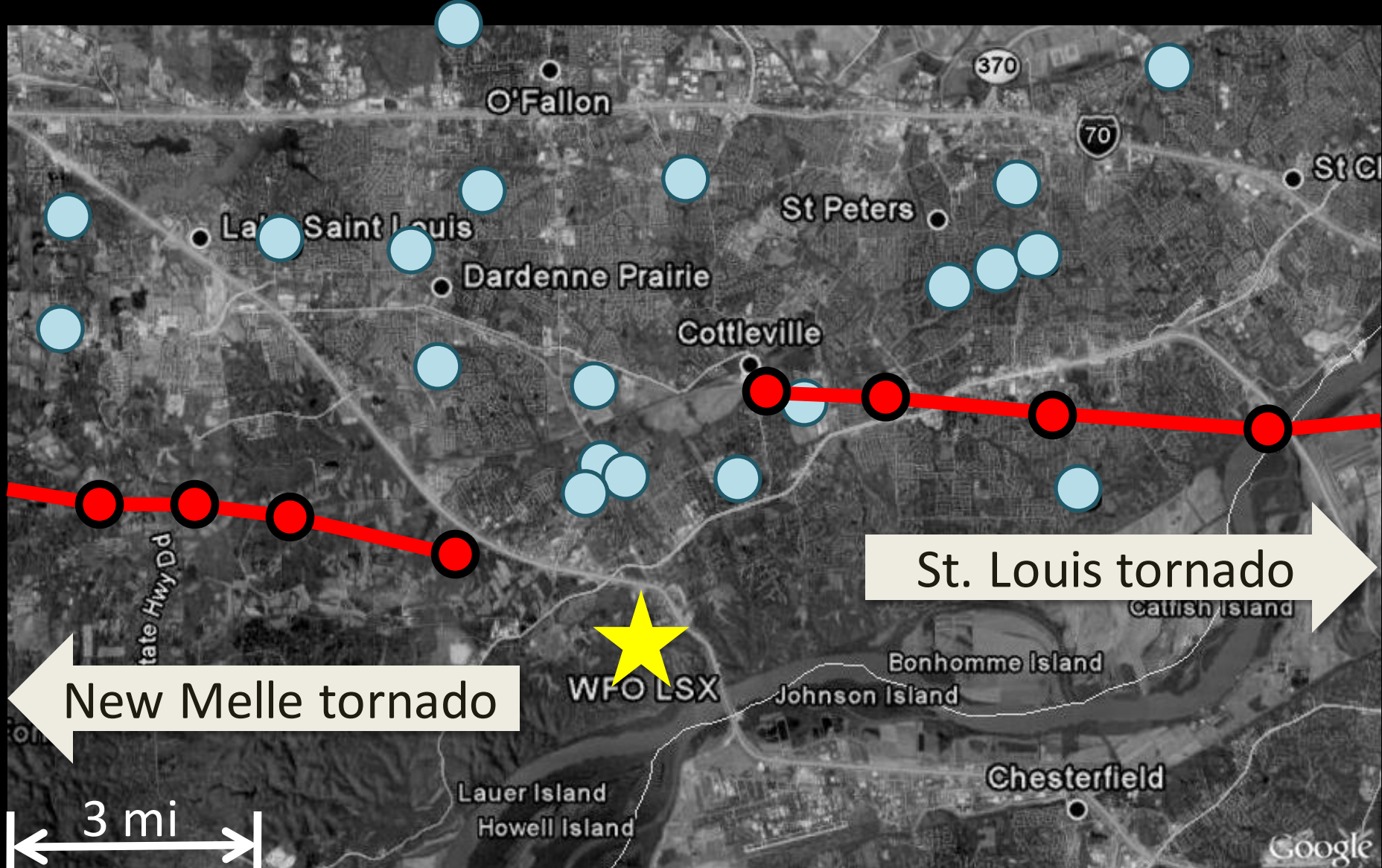
1. People took shelter



“Take this storm seriously, folks. I’m forecasting it to produce hail, tornadoes and a visit from the governor.”

[00:26:51] <nws>: i can't relay this
in strong enough terms...this is the
strongest signature I've seen on radar
in my 12 years in the weather service





- ★ NWS St. Louis
- Employees' homes
- Low level meso tracks

No fatalities from the 4/22/2011 St. Louis tornado

```
graph BT; A[No fatalities from the 4/22/2011 St. Louis tornado] <-- B[No deaths in the metro area]; A <-- C[No deaths on the interstates]; A <-- D[No one died while storm chasing]; A <-- E[No deaths at the airport]; A <-- F[Tornado occurred];
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No deaths
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interstates

No one
died
while
storm
chasing

No
deaths
at the
airport

Tornado
occurred

St. Louis tornado crossed 3 interstates



Semi blown over
in Bridgeton



Windows shattered
when the tornado
crossed I-70



No fatalities from the 4/22/2011 St. Louis tornado

```
graph BT; A[No deaths in the metro area] --> E[No fatalities from the 4/22/2011 St. Louis tornado]; B[No deaths on the interstates] --> E; C[No one died while storm chasing] --> E; D[No deaths at the airport] --> E; F[Tornado occurred] --> E;
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chasing

No
deaths
at the
airport

Tornado
occurred

Possible rain-wrapped tornado approaching I-64 near Weldon Spring

A group of storm
chasers directed
these cars to stop



No fatalities from the 4/22/2011 St. Louis tornado

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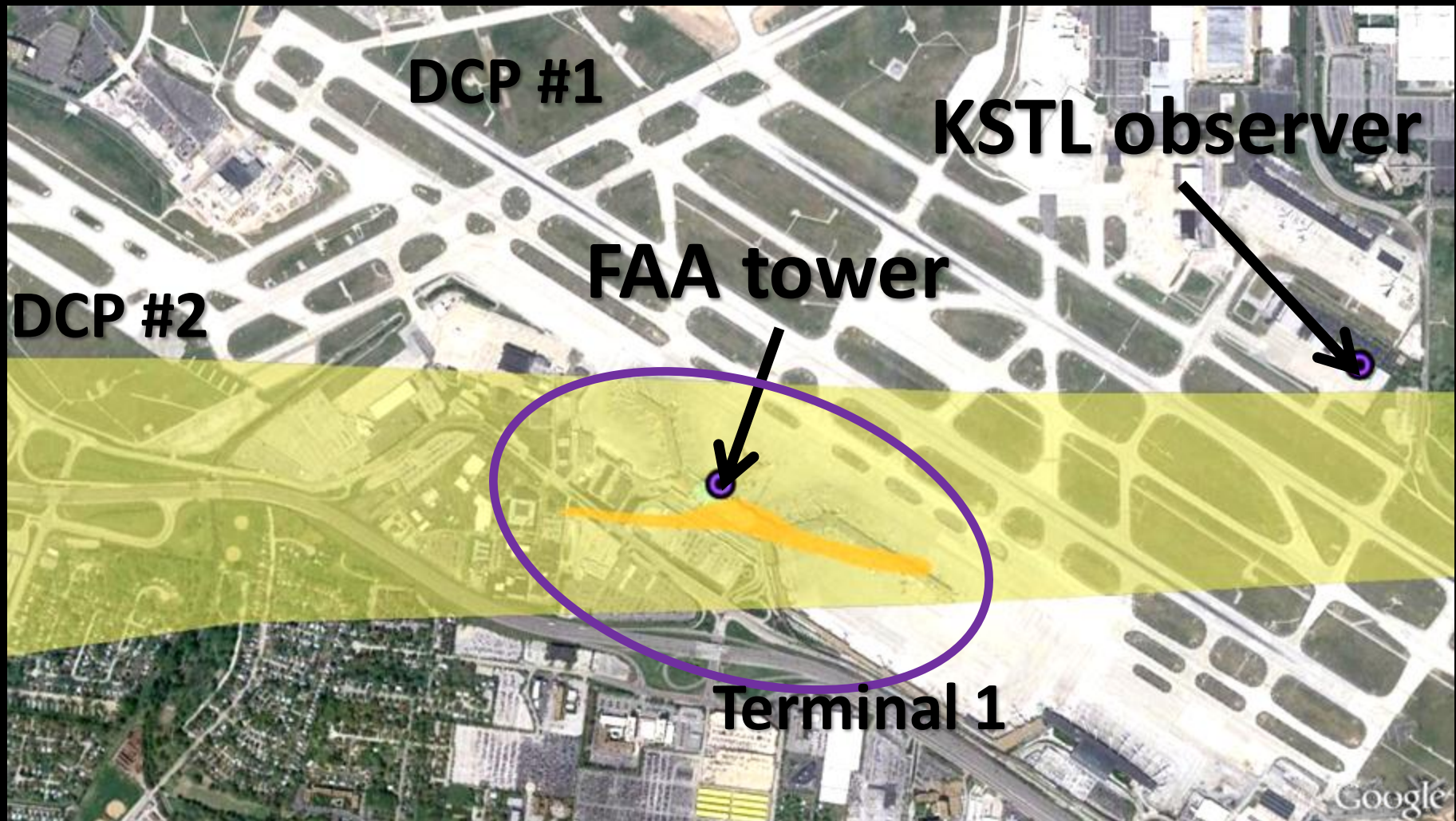
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Tornado
occurred



Lambert-St. Louis International Airport (STL)

EF0 to EF1

EF2

“I started thinking real hard about why didn’t I know, as the captain of a plane sitting at a gate, that there was a tornado?”

—Jim Campisi, pilot (Washington Post)

Passengers gather
at the windows.
Most are unaware
of the tornado.



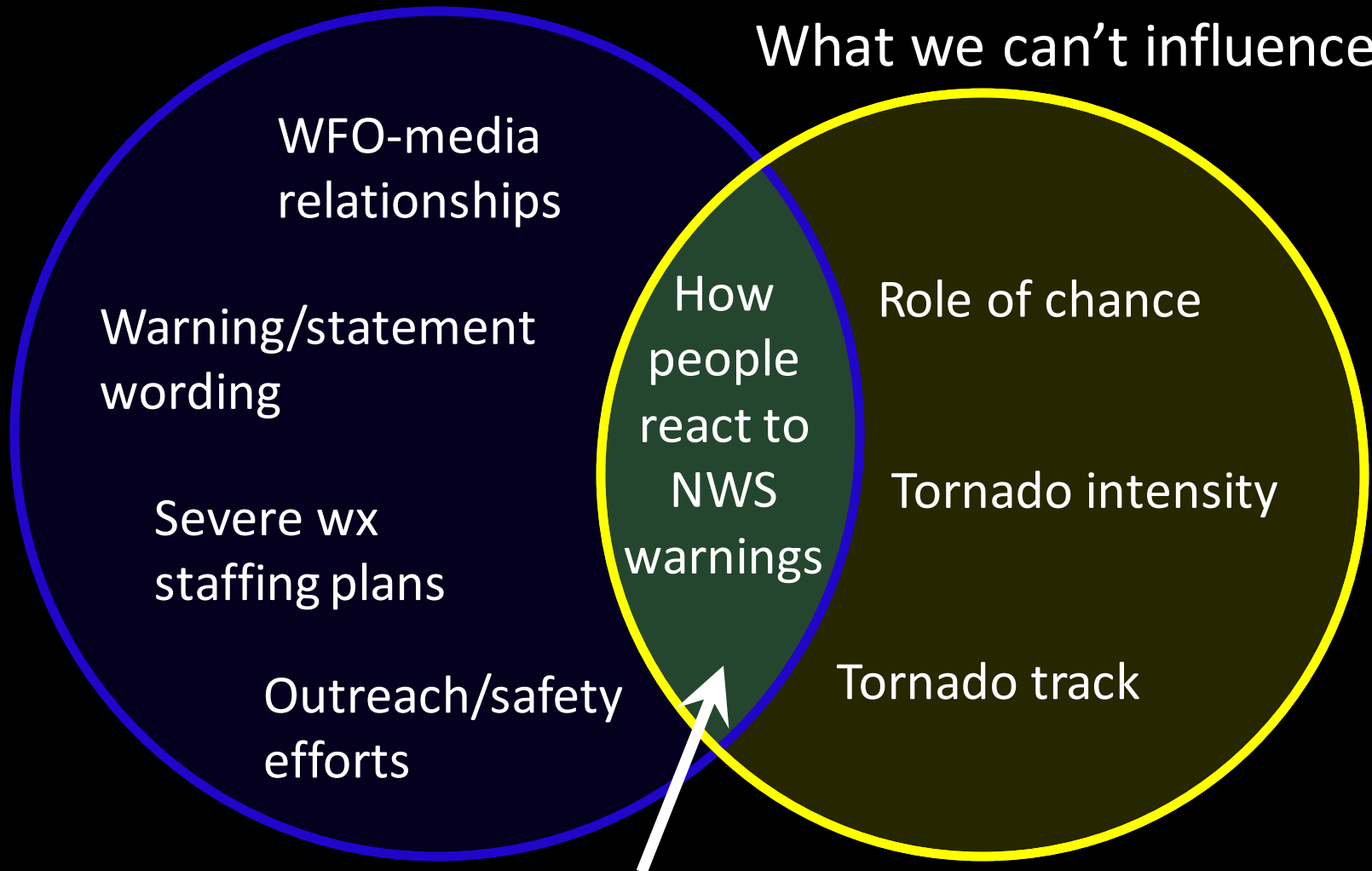
TSA agents run
to shelter as
debris begins to
blow through
the corridor



Take-home messages

What we can influence

What we can't influence



Where social science can help